

Claims

1. A conductor material for an actuator element, the conductor material comprising a gel comprising carbon nanotubes and an ionic liquid.
- 5 2. An electrode layer for an actuator element, the electrode layer comprising a gel composition comprising carbon nanotubes, an ionic liquid and a polymer.
3. An ion-conductive layer for an actuator element, the ion-conductive layer comprising a gel composition comprising an ionic liquid and a polymer.
- 10 4. An actuator element wherein at least two electrode layers, each of which is mutually insulated and comprises a gel composition comprising carbon nanotubes, an ionic liquid and a polymer, are formed on the surface of an ion-conductive layer comprising a gel composition comprising an ionic liquid and a polymer,
- 15 the actuator element being capable of being flexed or deformed by creating a potential difference between the electrode layers.
- 20 5. A method for producing the actuator element of claim 4 comprising the step of laminating a gel composition comprising carbon nanotubes, an ionic liquid and a polymer with a gel composition comprising an ionic liquid and a polymer, by casting, coating, printing, extrusion, or injection to form electrode layers and an ion-conductive layer.
- 25 6. An actuator element wherein at least two electrode layers, each of which is mutually insulated and comprises a gel composition comprising carbon nanotubes, an ionic liquid and a polymer, are formed on the surface of an ion-conductive layer comprising a gel composition comprising an ionic liquid and a polymer, and a conductive layer is formed on the surface of each electrode layer,
- 30 the actuator element being capable of being flexed or deformed by creating a potential difference between the conductive layers.
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7. A method for producing the actuator element of claim 6 comprising the step of laminating a gel composition comprising carbon nanotubes, an ionic liquid and a polymer with a gel composition comprising an ionic liquid and a polymer, by casting, 5 coating, printing, extrusion, or injection to form electrode layers and an ion-conductive layer.